

## The Tomato Hawk-Moth in Hawaii.

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(Presented at the meeting of May 1, 1924.)

In 1880,\* Butler described *Protoparce blackburni* among other Lepidoptera sent him by Blackburn. This sphingid was accompanied by the following note: "Occurs rarely near Honolulu." In his description, Butler compares it with the American species *P. quinquemaculata*, and gives distinctions from it.

In Ann. Mag. Nat. Hist. (5), VII, p. 319, 1881, Butler publishes a description of the larva which Blackburn had sent him. Blackburn notes as to food-plant: "Feeds on a very common weed growing about two feet high, also on a shrub growing some six feet high, neither of which is known to me by name." Very likely these plants were *Datura stramonium* and *Nicotiana glauca*. The latter at least is known as its common food-plant at the present time.

In the Fauna Hawaiiensis, Vol. I, p. 193, 1899, Meyrick synonymizes this insect with *Sphinx celeus* Hüb., apparently on examination of a single specimen at the British Museum—one of those collected by Blackburn and described by Butler, as noted above. Evidently, Perkins did not secure a specimen of this moth while collecting for the Fauna Hawaiiensis. He mentions, however, in "The Introduction to Fauna Hawaiiensis," that it "is usually found in the larval state, feeding on the tobacco plant, or on some other of the species of *Solanum*."

In a bulletin\*\* on "Insect Enemies of Tobacco in Hawaii," Van Dine discusses this insect under the name *Phlegethontius quinquemaculatus* Haw., but gives no particulars as to its distribution in Hawaii, or to what extent it injures tobacco here.

In 1905, I saw caterpillars that had been collected on cultivated tobacco in a mountain valley at Pahala, Hawaii; and in 1919, I was told by Mr. Jared Smith, who was then growing tobacco in Kona, Hawaii, that the caterpillars were often found

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\* E. M. M., XVII, p. 6, 1880.

\*\* Bull. 10, Hawaii Agr. Exp. Station, p. 10, 1905.

feeding on tobacco leaves, and that the laborers were always on the lookout for them, to kill any that they found.

The first specimen of the moth that came to my notice was a single specimen in a collection of Lepidoptera sent me for identification by C. W. Cockett, of Lahaina, Maui, in 1916. Several years later, in conversation with Mr. Cockett, I learned that he at one time had reared quite a number of these moths from caterpillars found at Lahaina, but his specimens had all become destroyed.

The first specimen obtained by me was on October 10, 1919, when I found a caterpillar on *Nicotiana glauca* at Kahului, Maui, and reared it to maturity. Again, on December 8, 1922, I found a few caterpillars on the same plant occurring at Spreckelsville, Maui, and reared a couple of specimens. At the latter place, Mr. Kusche, collecting for Mr. B. Preston Clark, in 1919 or 1920, secured several caterpillars, from which a few moths were obtained for Mr. Clark. And now again at this same place, on March 25, 1924, I collected four caterpillars, from which I hope in a few days to have moths appearing.

The specimen of moth I now exhibit was reared by Mr. G. P. Wilder from a caterpillar found by Mr. Krauss feeding on tomato vines and green fruit at the University of Hawaii farm in March of this year. So far as I can learn, this is the first time that the insect has been found on the Island of Oahu since Blackburn collected it before 1880.

The Moth can be considered rare, although its caterpillars are to be found by searching in certain places on Maui. But it must be exceedingly rare on Oahu to have escaped the notice of entomologists all these years since Blackburn's time.

In 1903, in their Revision of the Sphingidae,\* Rothschild and Jordan recognize this as a distinct form under the name *Protoparce quinque maculata blackburni* (Butl.). About the only distinction made is as follows: *P. quinque maculata*.—"The series of grayish-white post-discal triangular spots of the upper side of the forewings abbreviated costally." *P. quinque maculata blackburni*.—"The series of white triangular post-discal spots on the upper side of the forewing, extending to the costal margin."

\* Nov. Zool., IX, Suppl., p. 72, 1903.